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Purpose – The paper investigates how cultural values influence the entrepreneurial process. It conceptualises the relationship between post-materialistic values and entrepreneurial intention to explain low entrepreneurial activity.

Design/methodology/approach – The study was conducted in Saudi Arabia with non-entrepreneurs. An online survey returned 405 valid questionnaires, representing a 27% response rate. The data were analysed using Partial Least Structural Equation modelling.

Findings – The paper identifies key factors that explain the influence of changing cultural values on entrepreneurial activity. The results show that post-materialistic values influence entrepreneurial intention by decreasing desirability and entrepreneurial self-efficacy.

Limitations/implications – The study conceptualises the interplay between cultural values and entrepreneurial intention in Saudi Arabia. Further insights can be developed by comparing Saudi Arabia with other countries. The study was conducted as a "snapshot" of the current situation of entrepreneurship in Saudi Arabia with a cross-sectional survey design.

Practical implications – The paper holds important implications for entrepreneurship educators when addressing unsupportive cultures for entrepreneurial activity. Cultural and motivational approaches are suggested. While the former focuses on aspects that encourage the desire and confidence to start a business, the latter involves encouraging setting venture creation as a goal.

Originality/value – Previous studies indicated that post-materialistic values negatively influence entrepreneurship, this paper contributes further by exploring how this relationship manifests by exploring the intervening factors between post-materialistic values and entrepreneurial intention. It advances entrepreneurship research by investigating deep assumptions underlying the formulation of entrepreneurial intentions. It also responds to the need to understand the difference in the levels of entrepreneurial activity across countries.

1. Introduction

Entrepreneurship is a process of venture creation (Balan and Metcalfe, 2012) which is important within countries and societies for several reasons. First, it enables nations to deal with global challenges such as economic recession (Sowmya et al., 2010). Second, it supports societies to address difficulties such as unemployment (Koe et al., 2014). Third, it enhances the development of countries through innovation (Setiawan, 2014). To secure these advantages, countries and societies require more entrepreneurs (Campbell, 2012). However, the Global Entrepreneurship Monitor (GEM) reports (2009, 2010 and 2016) consistently show that the entrepreneurial activity score of some countries is far below the average of comparable countries. The advantages of venture creation to the socio-economiy are not therefore fully available (Freytag and Thurik 2007; Van Gelderen et al., 2015).

Stenholm et al. (2013, p.177) argued that "the rate of entrepreneurial activity varies widely across countries, yet we struggle to explain precisely why". Traditionally, the key explanation for differences in entrepreneurial activity across countries is economic condition (Blau, 1987; Evans and Leighton, 1989). Persistence of cross-country variations indicates that economic condition might not be the only reason behind this phenomenon (Grilo and Thurik, 2005) and it has been argued that differences in entrepreneurial activity across countries can be attributed to culture (Wennekers et al. 2007; Koenig et al., 2007). Studies have implemented Hofstede's cultural dimensions as measures in examining the relationship between culture and entrepreneurship (Mitchell et al., 2002; Thomas and Mueller, 2000; Mueller and Thomas, 2001) with dimensions including individualism, power-distance, uncertainty avoidance, and masculinity (Thomas and Mueller, 2000). However, Hofstede's dimensions have been criticised as being too broad and irrelevant to entrepreneurship (Hayton et al., 2002).

Uhlaner and Thurik (2007) articulated that cultural values are deeply rooted within countries and may better predict the differences in entrepreneurial activity among countries with similar policies. They explored the influence of post-materialism values on entrepreneurial activity across 27 countries and found that post-materialism values negatively affect total entrepreneurial activity. Post-materialism is defined here as "the degree to which a society places immaterial life-goals such as personal development and self-esteem above material security" (Uhlaner and Thurik, 2007, p.162). Morales and Holtschlag (2013) argued that studies at country level cannot explain the decision to become an entrepreneur at the individual level. One of the main reasons is that values are individual characteristics (Rohan,

2000). Morales and Holtschlag (2013) found that post-materialism values negatively influence the likelihood and decision to become an entrepreneur at the individual level. Uhlaner and Thurik (2007) found evidence of a direct relationship between post-materialistic values and Total Entrepreneurial Activity (TEA), with Morales and Holtschlag (2013) finding a direct relationship between post-materialistic values and self-employment. However, whether this is actually an indirect relationship, with mediating variables playing a key role, has not been addressed. The question of why post-materialistic culture causes low entrepreneurship remains unanswered (Morales and Holtschlag, 2013; Stenholm et al., 2013).

The problem of unsupportive cultural values is a major concern because it may subsequently inhibit the performance of entrepreneurial activity (Tomlinson, 2007; Skoko, 2011; Hamid, 2012). Although policy makers establish institutions and initiatives to promote and secure the advantages of entrepreneurship (Kuratko, 2005; GEM, 2009, 2010; Carree and Thurik, 2010; Campbell, 2012), these interventions could be "overshadowed" by post-materialistic values (Morales and Holtschlag, 2013). Post-materialistic values can therefore limit the effectiveness of different policy interventions that aim to promote entrepreneurship (Uhlaner and Thurik, 2007).

Consequently, there have been explicit calls for understanding and managing the negative influence of post-materialism so that policy responses can be more effective. Uy (2011) argued that understanding entrepreneurs' values is crucial to unleash their full potential and inform government interventions. Uhlaner and Thurik (2007) articulated that although societies with post-materialism values might have fewer entrepreneurs, there is still a need to address the "puzzle" of why post-materialism negatively influences entrepreneurial activity. Morales and Holtschlag (2013) stated that there is a need to address the variables explaining the relationship between post-materialistic values and entrepreneurship at the individual level. There is a need to integrate individual variables with cultural dimensions. Further, there is a need to investigate the influence of post-materialistic values on likelihood to be an entrepreneur in different contexts (Morales and Holtschlag, 2013). There is a scarcity of research into the impact of post-materialism values in entrepreneurship, and "if research into the determinants of entrepreneurship is scarce as far as cultural issues are concerned, it is even scarcer when it comes to the role of post-materialistic values play in entrepreneurship" (*Ibid*, 2013, p.269).

Following the argument that studying the entrepreneurial process and gaining insights about its origin is crucial to foster the gains of entrepreneurship (Freytag and Thurik, 2007; Alfonso and Cuevas, 2012), this paper examines the mechanism underlying the influence of post-materialistic values on entrepreneurial intention. Although determinants of entrepreneurial intention are a well-researched subject in the entrepreneurship discipline (Krueger, 1993; Krueger et al., 2000; Van Gelderen et al., 2008; Liñán and Chen, 2009; Almobaireek and Manolova, 2013; Schlaegel and Koenig, 2014; Kautonen et al., 2015), looking at the direct and indirect relationships between post-materialistic values and entrepreneurial intention will inform research from two perspectives. First, it develops understanding of the deep-rooted assumptions that inhibit entrepreneurial intention and entrepreneurial activity. Second, it the relationships between underlying factors that support concrete entrepreneurial intention formation that then leads to entrepreneurial activity. This can enhance the effectiveness of entrepreneurship promotion programmes and secure advantages of entrepreneurship for unsupportive cultures (Haddoud et al., 2017). For example, entrepreneurship education can cultivate students' entrepreneurial intention (Liñán, 2008; Newbery et al., 2016, 2018).

Building on the notion of the negative influence of post-materialistic values on entrepreneurship at the individual level, this study extends knowledge in the field by exploring variables that mediate the relationship between post-materialistic values and entrepreneurial intention. It contributes to entrepreneurship research by exploring the factors that explain the negative influence of post-materialistic values on entrepreneurship. Further, it examines inhibitors of entrepreneurial intention and the validity of the post-materialism hypothesis in a developing country context. From a practical perspective, the research informs intervention programmes to better focus on what it takes to reduce the negative influence of post-materialistic values on potential entrepreneurs. This may enhance the efficiency of these programmes and encourage the development of entrepreneurs.

Saudi Arabia, the context of this study, is a country where policy makers recognised the role of entrepreneurship in responding to economic concerns such as economic diversification, a growing young population, and increasing rate of unemployment (Porter, 2009). The country's National Development Plans (2010-2014 and 2015-2019) have emphasised entrepreneurship through strategy and institution building (Schwab and Sala-i-Martin, 2015; Aloulou, 2016). However, despite interventions, the 2010 Global Entrepreneurship Monitor (GEM) report showed that Saudi Arabia scored only 1% for entrepreneurial intentions rate compared to a 42.6% average of comparable countries (GEM, 2010, p.17), the lowest

entrepreneurial intention score for any country. In addition, Saudi Arabia scored a low total entrepreneurial activity (TEA) of 9.4% compared to the average of 22.8% among comparable countries. Conversely, entrepreneurial perceptions including "perceived opportunity, capabilities, and high status to successful entrepreneurs" (GEM, 2010, p.22) were highly scored. Scholars have argued that a key reason for this discrepancy is that the "years of plenty" (specifically oil wealth in this context), have created an unsupportive culture for entrepreneurship (Skoko, 2011; Hamid, 2012). However, the mediating factors that explain the relationship between post-materialistic values and entrepreneurial intention remain unexplored, limiting the ability of policy-makers to intervene effectively.

This paper next highlights key theories and develops a conceptual model and hypotheses to be tested. Following this, survey data with a sample of 405 non-entrepreneurs are analysed to test the hypotheses. The paper concludes with a discussion of the findings along with policy and practical recommendations, limitations, and suggestions for further research.

2.0 Cultural Values and Entrepreneurial Intention

2.1. Culture and Values

Social cognitive theory articulates that there is a direct relationship between environment and human behaviours (Bandura, 1986; 2001; Wood and Bandura, 1989). Although environmental factors may include several aspects such as economic conditions and socioeconomic status (Bandura, 2001), this study focuses on culture as it can affect the way that people decide to choose entrepreneurship and it indicates how countries might differ in motivations, aspirations, and activities (Foreman-Peck and Zhou, 2013). To explore the effects of culture in this context, it is crucial to understand values which underlie cultures (Hundley and Hansen, 2012). As defined by Mueller and Thomas (2001, p.58), values are "powerful forces for controlling and directing human behaviour". Values refer to embedded concepts and beliefs which developed in the early stages of life and may promote or inhibit behaviours (Uhlaner et al., 2002; Inglehart, 2008). Values directly influence behaviours as people tend to choose alternatives that match the norm (Holland and Garrett, 2013). Reference groups, beliefs and traditions can influence people's decisions and behaviours and people often think that doing something different might result in loss. Hence, they tend to prefer inaction or follow others' actions to avoid such loss. This might result in an inability to

take action and inhibit a particular behaviour (Bandura, 2001; Uhlaner et al., 2002; Holland and Garrett, 2013).

Previous psychological studies have proved that cultural values exert influence over behaviour and that entrepreneurial behaviour is no exception (Mueller and Thomas, 2000; Murphy and Anderson, 2004; Uhlaner and Thurik, 2007; Wennekers et al., 2007; Morales and Holtschlag, 2013). Countries may have more entrepreneurs by having more individuals with entrepreneurial values (Davidsson, 1995; Uhlaner and Thurik, 2007; Morales and Holtschlag, 2013). This notion is consistent with the post-materialism hypothesis which articulates that modern societies change their values from materialism that prefer materialistic goals, such as economic and physical security, into post-materialism that prefer higher-order goals, such as quality of life and self-actualisation (Inglehart, 1977; 1990; 2008; Kroh, 2009). The change process starts in times of difficult economic conditions where people prioritise materialistic goals. As the condition changes to prosperity e.g. the discovery of oil, their values change to favour higher-orders goals. Later, the younger generation who have not experienced economic insecurity replace the materialistic generation. As entrepreneurs have been shown as predominately materialistic (Blais and Toulouse, 1990; Robichaud et al., 2001; Uhlaner and Thurik, 2007), it is expected that societies with materialistic values have more entrepreneurs. Researchers investigated the relationship between post-materialism and entrepreneurship and found that post-materialistic values negatively influence entrepreneurial activity among countries (Uhlaner and Thurik, 2007; Uhlaner et al., 2002). Further, Morales and Holtschlag (2013) extended this result and found that post-materialistic values negatively influence entrepreneurial activity at the individual level. Thus, post-materialist individuals are less likely to be entrepreneurs.

2.2. Entrepreneurial Intention

Entrepreneurship scholars have focused on entrepreneurial intention to understand how and why people start their business (Krueger et al., 2000; Alfonso and Cuevas, 2012; Sedigheh and Noor, 2014). Entrepreneurial intention refers to readiness of an individual to become involved in entrepreneurship (Goethner et al., 2012). Two main intention models have been widely applied to the study of entrepreneurial behaviour – namely, the theory of planned behaviour (TPB) (Ajzen, 1991) and the entrepreneurial event model (EEM) (Shapero and Sokol, 1982). In a meta-analysis about determinants of entrepreneurial intent, Schlaegel and Koenig (2014) identified 98 studies which employ TPB and EEM in the entrepreneurship

field. Intention models show that intention is the best predictor of action (Shapero and Sokol, 1982; Bagozzi et al., 1989; Ajzen, 1991; Krueger, 1993; Krueger et al., 2000). Several studies supported the ability of the TPB intention model to predict *entrepreneurial action* (Kautonen et al., 2013; Kautonen et al., 2015; Van Gelderen et al., 2015): For example, a longitudinal study that used the full TPB model explains 39% of entrepreneurial action (Kautonen et al., 2013).

However, the role of cultural values can affect intention determinants and their strength to predict intention (Fayolle and Linan, 2014). The cultural dimensions such as collectivistic and individualistic orientation can influence entrepreneurial intention and career choice (Cassell and Blake, 2012). For example, subjective norms were found not to be related to entrepreneurial intention for students in the USA (Krueger et al., 2000) whereas they were found to be significantly related in Russia (Tkachev and Kolvereid, 1999). Although a significant number of studies have been conducted in developed countries about entrepreneurial intention (Krueger et al., 2000; Goethner et al., 2012; Kautonen et al., 2013; Kautonen et al., 2015; Van Gelderen et al., 2015), Saudi Arabia is considered as collectivistic developing country where social pressures can influence entrepreneurial intention (Aloulou, 2016). Social cognitive theory asserted that environment influences behaviours indirectly through cognition (Bandura, 1986; 2001; Wood and Bandura, 1989). Cognition reflects "frameworks through which individuals interpret information" (Stenholm et al., 2013, p. 181). Thus, environment affects behaviours through people's thoughts and decisions (Bandura, 2001) in either a positive way or a negative way (Kaze´n et al., 2008; Wieber et al., 2015).

3. A Conceptual Model for Post-materialistic values and Entrepreneurial Intention

3.1. Post-materialistic Values and Entrepreneurial Intention: the direct link

People often have many needs which influence the sequence of their motivation in accordance with Maslow's hierarchy of human needs (Locke, 1991). They acquire values to satisfy these needs. Next, they set intentions that match their values and help them to fulfil their needs. Thus, values determine intentions which in turn affect behaviour. Values may change between materialistic and post-materialistic types as economic conditions change and new generations replace old generations (Inglehart, 1977, 1990; 2008). The influence of values on entrepreneurial behaviour is salient for several reasons. First, values drive actions and represent effective forces enabling people to direct and control their behaviours (Halman

and De Moor, 1994; Mueller and Thomas, 2001). Thus, the "ultimate evidence for what a person values lies in their actions" (Lock, 1991, p. 291). Second, values affect entrepreneurial activities and actions on both macro and micro levels (Uhlaner et al., 2002; Inglehart, 2008; Morales and Holtschlag, 2013). Third, entrepreneurs are materialistic and thus a society with post-materialistic individuals will have fewer entrepreneurs (Uhlaner and Thurik, 2007).

Several studies explored the direct relationship between values and entrepreneurial behaviour and found that post-materialistic values act as inhibitors to entrepreneurial activity (Uhlaner et al., 2002; Inglehart, 2008; Morales and Holtschlag, 2013). Uhlaner and Thurik (2007) conducted a comparative study about the influence of post-materialistic values on total entrepreneurial activity, revealing that, at a country level, post-materialistic values are negatively related to Total Entrepreneurial Activity. Another study extended this result by looking at the effect of post-materialistic values on self-employment (Morales and Holtschlag, 2013), finding that post-materialistic values negatively influence the decision to be an entrepreneur. Consequently, this study expects to confirm that:

Hypothesis 1: Post-materialistic values are negatively related to entrepreneurial intention.

3.2. Post-materialistic Values and Entrepreneurial Intention: the indirect link

Post-materialistic Values

Although previous studies have informed the entrepreneurship field about the negative influence of post-materialistic values, the reasons remain to be identified (Morales and Holtschlag, 2013; Stenholm et al., 2013; Uhlaner and Thurik, 2007). According to the social cognitive theory, environment influences behaviours indirectly through cognition (Bandura, 2001). As stated by Bandura:

> 'In social cognitive theory, sociostructural factors operate through psychological mechanisms of the self-system to produce behavioural effects. Thus, for example, economic conditions, socioeconomic status, and educational and family structures affect behaviour largely through their impact on people's aspirations, sense of efficacy, personal standards, affective states, and other self-regulatory influences, rather than directly' (2001, p. 15).

This indicates that cognition is not the only factor that could inhibit behaviour and it is also important to consider the interplay between culture and cognition. In addition, there is an

indirect relationship between culture and behaviour and culture may inhibit behaviour indirectly by influencing the way people formulate their intentions.

Previous studies have found that intention models are capable of predicting entrepreneurial intention (Krueger, 1993; Krueger et al., 2000; Van Gelderen et al., 2008; Liñán and Chen, 2009; Almobaireek and Manolova, 2013; Schlaegel and Koenig, 2014; Kautonen et al., 2015) and entrepreneurial action (Goethner et al., 2012; Kautonen et al., 2013; 2015). In order to understand the influence of post-materialistic values on entrepreneurship, there is a need to integrate individual variables with cultural dimensions (Uhlaner and Thurik, 2007; Morales and Holtschlag, 2013). Although previous studies highlight that post-materialistic values *directly* influence total entrepreneurial activity and self-employment, the *indirect* relationship may explain the relationship more comprehensively. Mediators provide information about the significant relationship between variables (Hair et al., 2014). In a meta-analysis of determinants of entrepreneurial intent, Schlaegel and Koenig (2014) found that desirability, feasibility and entrepreneurial self-efficacy factors have been identified as determinants of entrepreneurial intention (Wang et al., 2002; Shook and Bratianu, 2010; Byabashaija and Katono, 2011; Solesvik et al., 2012). In this study, the mediation relationships are used to examine to what extent desirability, feasibility, and entrepreneurial self-efficacy can provide information about the relationship between post-materialistic values and entrepreneurial intention.

Desirability and Feasibility

Lazarus and Folkman (1984) argued that, in comparable environments, personal differences lead to different outcomes. Kaze´n et al. (2008) asserted that human differences in intention formulation suggest a need to understand the cognitive processes underling these variations. Formulating concrete intention is important in overcoming goal attainment difficulties (Gollwitzer, 1999; Sheeran et al., 2005; Wieber et al., 2010). Desirability and feasibility can "transform intention into a target goal intention leading the individual to be committed to the implementation of specific actions to achieve the pursued objective" (Ilouga et al., 2014, p. 720). Entrepreneurial *desirability* is defined as the extent of attractiveness for an individual to start a business whereas *feasibility* reflects the individual's insight about their ability to start a business (Alfonso and Cuevas, 2012). Wieber et al. (2010) emphasised the roles of desirability and feasibility in formulating concrete goals with high commitment. This is consistent with the self-regulatory process (Kuhl, 1985) where the role of commitment is to

transform intention from a long-term memory to an actionable working memory. Armor and Taylor (2003) argued that assessment of tasks and ability to perform them influences performance. As such, in the context of achieving the desired goal, there is a need to examine desirability and feasibility in greater depth (Armor and Taylor, 2003; Fujita et al., 2007; Wieber et al., 2015).

The roles of desirability and feasibility as predictors of entrepreneurial intention are emphasised in the entrepreneurial event model (EEM) (Shapero and Sokol, 1982). Further, Krueger et al. (2000) found that desirability and feasibility are good predictors of entrepreneurial intention. Consequently, desirability and feasibility can formulate entrepreneurial intention and this study hypothesises that:

Hypothesis 2: Desirability mediates the relationship between post-materialistic values and entrepreneurial intention.

Hypothesis 3: Feasibility mediates the relationship between post-materialistic values and entrepreneurial intention.

Entrepreneurial Self-efficacy

Another factor that leads to concrete intention is self-efficacy. Self-efficacy refers to a person's belief in their capability to perform tasks required for achievement (Bandura, 2003; McGee et al., 2009; Bullough et al., 2014). People who demonstrate high self-efficacy alongside an intention are more able to overcome difficulty and pursue their goal (Lazarus and Folkman, 1984; Kuhl, 1985; Carver and Scheier, 1990). According to Ajzen and Madden (1986), people act on behaviour where they believe that they have a certain level of control, believe it is desirable and are able to perform it successfully. The influences of self-efficacy and goal setting are confirmed by Bandura and Locke (2003), who suggest that there is compelling evidence that goal setting in parallel with self-efficacy can enhance action enactment. People with high self-efficacy are more likely to take action (Bandura, 2003).

Within the entrepreneurial context, self-efficacy refers to the degree to which individuals believe they are capable of performing the tasks required to start a business (Zhao et al., 2005; McGee et al., 2009; Bullough et al., 2014). The effect of entrepreneurial self-efficacy is salient, as Bandura (2003, p. 97) argued, "it is those of high perceived self-efficacy who are most likely to start new business ventures" because they have established clear vision,

challenging goals, and concrete belief in their ability to accomplish them. Our final hypothesis is therefore that:

Hypothesis 4: Entrepreneurial self-efficacy mediates the relationship between post-materialistic values and entrepreneurial intention.

The suggested direct and indirect relationships between post-materialistic values and entrepreneurial intention are given in Figure 1.

Figure 1 here

4. Methods

A novel survey was implemented in Saudi Arabia, a country with a culture that has been reported as unsupportive to entrepreneurial action (Saudi Central Department of Statistics and Information (SCDS), 2015). This was then used to develop a Partial Least Squares Structural Equation Model (PLS-SEM) to test the hypotheses. The following sections explore the context, sample selection and measures chosen to test the conceptual model.

4.1. Saudi Arabian Context

GEM reports consistently show that more than 50% of countries in the study scored less than average on Total early-stage Entrepreneurial Activity (GEM, 2009; 2010). Saudi Arabia is an ideal context within which to explore the issue of unsupportive cultures for several reasons. First, because entrepreneurial intention and activity in Saudi Arabia is far below the average of comparable countries (GEM, 2009; 2010; 2016). Secondly, Saudi Arabia has experienced major change in its cultural values since the oil boom of the 1970s (Skoko, 2011). As a result preferences and priorities have changed from crafts and professions to employment and lifestyle, where 'years of plenty' have arguably created an unsupportive culture for entrepreneurship (Tomlinson, 2007; Skoko, 2011; Hamid, 2012). Finally, there is a stated policy need as articulated in the *Ninth Development Plan of Saudi Arabia* where "although there are many successful national businessmen, meeting the development aspirations of the country requires the presence of more entrepreneurs" (Ministry of Economy and Planning, 2010, p.162). Consequently, the country development plan expressed this issue through strategies and objectives for promoting entrepreneurship.

According to the Saudi Central Department of Statistics and Information (SCDS, 2015), the total population in Saudi Arabia is 30 million (m). The total labour force (15 years and above) in Saudi Arabia is 11.9m out of which nationals account for 5.6m. The number of Saudi males working in the private sector is 1.0m (73%) compared to 0.4m (27%) females. According to The Ministry of Labour (2013), the number of Saudi nationals working in the private sector was 1.4m compared to 3.6m working in the public sector.

4.2. Sampling and Procedures

The study explores the influence of cultural values on entrepreneurial intention and, as such, current business owners were excluded from the population. In addition, in Saudi Arabia it is illegal for public sector employees to start their own business and so this sector was excluded to remove potential bias. Finally, only Saudi nationals are permitted to own a private business; hence, non-Saudi nationals were excluded.

To select a suitable representative sample, the study applies a random sampling approach. We selected companies listed on the Saudi Stock Exchange[1] that spanned 13 administrative regions. Invitations to participate in the survey were sent to 30 companies randomly selected from the 169 listed companies in the Saudi stock market. Each company was then asked to disseminate the questionnaire to a random sample of 50 employees. In total, the survey was sent to a targeted sample of 1,500 private sector national employees in Saudi Arabia. A total of 405 employees returned usable responses. This represents a 27% response rate of the targeted sample; within the range of similar previous studies (Van Gelderen et al., 2008; Pruett et al., 2009; Koe et al., 2014; Moghavvemi and Salleh, 2014).

4.3. Measures

There are several variables which constitute the research model; these are post-materialistic values, desirability, feasibility, entrepreneurial self-efficacy, and entrepreneurial intention. The exogenous variable for this research is post-materialistic values which might

[1] In 2007, the Saudi government established the Saudi Stock Exchange Company (Tadawul) to regulate the Saudi stock market. The three major initial conditions which qualify a company to be listed in the market are a minimum of three years of trading under the same management; three years' audited financial statements; and sufficient working capital for the next one year. The study considers these conditions as a sign of well-established companies.

directly/indirectly affect the outcome variable, entrepreneurial intention. The endogenous variables include desirability, feasibility, and entrepreneurial self-efficacy.

4.3.1. Entrepreneurial Intention

The study applied a six-item instrument for measuring entrepreneurial intention, following Linan and Chen (2009). Examples of items are "I am ready to do anything to be an entrepreneur" and "I have very seriously thought of starting a firm".

4.3.2. Mediating Factors

The mediating factors include desirability, feasibility, and entrepreneurial self-efficacy. The desirability scale has five items such as "I would work somewhere else only long enough to make another attempt to establish my business" (Kolvereid and Isaksen, 2006). The feasibility measure has six items and was adopted by Krueger et al. (2000) and Peterman and Kennedy (2003). An example of measures includes "It will be feasible to start my own business". The scale for entrepreneurial self-efficacy includes ten questions such as "I have confidence in my ability to grow a successful business" (Cox et al., 2002).

4.3.3. Post-materialistic Values

Post-materialistic value is the independent variable which is expected to influence entrepreneurial intention directly or indirectly. The study implemented a five-item scale of post-materialistic values which was adopted by the World Values Survey and several studies (Inglehart and Abramson, 1994, 1999; MacIntosh, 1998; Uhlaner et al., 2002; Morales and Holtschlag, 2013).

To reduce potential biases arising from endogeneity and omitted variables issues, the study controlled for three factors likely to influence individuals' Self-Regulation. Papies et al. (2016) suggest that endogeneity problems can be largely solved by the insertion of relevant control variables. Previous studies argue that individuals' gender (Gupta, et al., 2009), age (Quan, 2012) and education (Ozgen and Minsky, 2013) are likely to affect their entrepreneurial perceptions. While gender was measured using a dummy variable, age and education were both assessed through ordinal scales. In line with the suggestion that controlling for relevant variables can largely solve potential biases due to omitted variables and endogeneity (Papies et al., 2016), the study controlled for three factors. These factors are

likely to influence an individual's entrepreneurial perceptions and comprise gender (Gupta et al., 2009), age (Quan, 2012) and education (Ozgen and Minsky, 2013). Age and education were measured through ordinal scales whereas gender was assessed using a dummy variable.

5. Analysis and Results

The study applies a regression-based Partial Least Squares Structural Equation Modelling (PLS-SEM) using Smart PLS 3.26. In this study, the variance-based approach is more appropriate than the covariance-based (CB-SEM) one for several reasons. It involves theory development (Sarstedt et al., 2014) where the role of culture is conceptualised to understand the influence of post-materialistic values on entrepreneurship. The variance-based approach satisfies the aims of exploring and predicting constructs, and explaining the variance of the dependent variables (Henseler et al., 2009; Reinartz et al., 2009; Henseler and Sarstedt, 2013; Hair et al., 2014; Sarstedt et al., 2014). This study explores the direct and indirect relationships between post-materialistic values and entrepreneurial intention, explaining the effect of values change in the entrepreneurship domain. The PLS algorithm has been recommended to handle complex models (Henseler et al., 2009). Sarstedt et al. (2014) argued that PLS-SEM is more applicable in models with various constructs, several items per construct and many relationships. The present study involves five constructs and both direct and indirect relationships between post-materialistic values and entrepreneurial intention.

5.1. Sample Characteristics and Measurement Bias

Most participants fall into two age groups: 31-40 (39.8%) and 41-50 (35.1%). The majority of participants were male, accounting for 95% of participants compared to only 5% of females. This difference was due to two main reasons: first, the number of Saudi males working in the private sector is 1.0m (73%) compared to 0.4m (27%) females (Ministry of Labour, 2013). Second, due to gender segregation, the researchers had limited accessibility to female divisions in the private sector companies in Saudi Arabia. We argue that the unbalanced sample reflects the current situation in the private sector working force in Saudi Arabia. The study controls for age, education level, and gender. The sample characteristics are represented in Table1.

Table 1 here

To reduce common method bias, the researcher has tested for the possibility of ambiguous items in the questionnaire by conducting the pilot study. Further, the statistical remedy using the Harman single-factor test revealed that the single factor accounted for 16.78% of the variance, which is less than 50%. This result suggested that common method bias is not a major issue in this study (Andersson and Bateman, 1997; Aulakh and Gencturk, 2000; Podsakoff et al., 2003). Additionally, a more robust test for common method bias proposed by Liang et al. (2007) was applied. Here, a PLS model with a common method factor including all items of the study and estimated each item's variances that explained its principle construct and common method factor was run. The results showed that the average variance of the items was 0.58 compared to the average method-based variances of 0.02. This confirms that common method bias is unlikely to be a significant issue in this study (Liang et al., 2007; Obadia, 2013; Haddoud et al., 2017).

5.2. Measurement Model

Applying the PLS-SEM evaluation procedure, the evaluation criteria for reflective models include indicators' reliability, internal consistency reliability (composite reliability), convergent validity and discriminant validity (Hair et al., 2014; Sarstedt et al., 2014).

Items with outer loadings of higher than 0.70 are retained and items with outer loadings of less than 0.40 are omitted to ensure indicator reliability (Hair et al., 2014). Applying this rule to the study revealed that several indicators have been omitted from different constructs. Although some items have a reliability measure greater than 0.40 but less than 0.70, they are retained as deletion would not increase the associated constructs' validity as shown in the Appendix.

For composite reliability, the Appendix shows that the Cronbach's alpha for all the study constructs is more than 0.70 except for the construct of feasibility. However, the associated composite reliability is 0.77 which indicates reliable variance on the composite score. The convergent validity test of constructs shows that Average Variances Extracted (AVE) values for all constructs are greater than 0.50 indicated the validity of all measures. Further, a discriminant validity test revealed that items load highest with the associated construct compared to other constructs, hence establishing discriminant validity (Table 2).

Table 2 here

Given that the measurement model evaluation is satisfactory and the measures quality acceptable, the second stage is to conduct structural model analysis.

5.3. Structural Model and Hypotheses Testing

Following the PLS-SEM Evaluation Procedure, the evaluation criteria for structural model include collinearity, predictive relevance (R^2 and Q^2) and significance relevance of path coefficients. As far as collinearity evaluation is concerned, the constructs of post-materialistic values, desirability, feasibility, and entrepreneurial self-efficacy are a set of predictors for entrepreneurial intention. Each predictor construct's tolerance (VIF) value should be higher than 0.20 and lower than 5 (Hair et al., 2014, p.186). As given in the Appendix, all VIF values are within the threshold of 5.0>VIF>0.20. There is no collinearity among all predictors' constructs in the model.

As far as the predictive relevance is concerned, the coefficient of determination (R^2) of the model outcome variable, entrepreneurial intention, is 0.54. This indicates that desirability, feasibility, and entrepreneurial self-efficacy account for 51% variance of entrepreneurial intention which is within the range of some entrepreneurship studies (Krueger, 1993; Krueger et al., 2000; Zhao et al., 2005; Solesvik et al., 2012). The Q^2 value of greater than zero indicates that the model has predictive relevance. The Q^2 value of entrepreneurial intention is 0.355, indicating the predictive relevance of the path model.

In the case of the significant relevance of path coefficients, Figure 2 provides several major indicators about the relationships between constructs. The study found that post-materialistic values have no direct effect on entrepreneurial intention. Hence, hypothesis H1 is rejected. In order to examine the mediation effect of desirability, feasibility, and entrepreneurial self-efficacy, indirect relationships should be significant (Hair et al., 2014). The indirect relationship between post-materialistic values and entrepreneurial intention is significant ($p=0.009$). This indirect influence was found to take place through desirability and entrepreneurial self-efficacy only. Hence, H2 and H4 are supported whereas H3 is rejected. This indicates a full mediation effect, meaning that the negative influence of post-materialistic values on entrepreneurial intention takes place through decreasing desirability and entrepreneurial self-efficacy.

Figure 2 here

6. Discussion

Post-materialistic values can be unsupportive for entrepreneurship (Uhlaner and Thurik, 2007; Morales and Holtschlag, 2013), and may subsequently inhibit the performing of entrepreneurial activity (Tomlinson, 2007; Skoko, 2011; Hamid, 2012). This study responds to the need for a detailed understanding of the relationship between post-materialistic values and entrepreneurial behaviour (Freytag and Thurik, 2007; Uhlaner and Thurik, 2007; Uy, 2011; Alfonso and Cuevas, 2012; Morales and Holtschlag, 2013). Understanding this enables policy-makers to focus on factors that formulate concrete entrepreneurial intention and lead to increased entrepreneurial activity.

The first finding shows that post-materialistic values have no direct effect on entrepreneurial intention (H1). This is not consistent with the motivation sequence framework where values influence intentions (Locke, 1991). Further, it is not consistent with the arguments of negative influence of post-materialism on entrepreneurial activity (Uhlaner and Thurik, 2007) as well as on the decision to become an entrepreneur (Morales and Holtschlag, 2013). However, the first study used total entrepreneurial activity to measure entrepreneurship whereas the second study used self-employment decision.

The findings of the mediation analysis in turn show that desirability and entrepreneurial self-efficacy explain the relationship between post-materialistic values and entrepreneurial intention (H2 and H4, respectively). This result is in accordance with social cognitive theory which postulates that environment influences thoughts and decisions. It supports the notion that cultures affect behaviours indirectly through aspirations and sense of efficacy (Bandura, 2001). Looking at the relationship between post-materialistic values and factors that underlie the formulation of entrepreneurial intention enabled the study to identify a rationale for the low entrepreneurial activity.

Post-materialistic values reduce desirability and therefore negatively affect the personal attractiveness of entrepreneurial activity. This supports the thesis where post-materialist individuals appreciate higher-order life goals more than economic security goals (Inglehart, 1977, 1990, 2008). Consequently, they have low entrepreneurial intention and behaviour. Entrepreneurship is also a complex phenomenon that involves long time lags between intention and action (Krueger et al., 2000; Shook et al., 2003) and a lack of desirability may lead people to disengage more easily.

Post-materialistic values also reduce the degree to which individuals believe they are capable of performing the tasks required to start a business. This induces people to set simple goals rather than challenging ones (Locke and Latham, 2006). Consequently, they might avoid setting entrepreneurial activity as a concrete goal. Self-doubt also lowers the belief that people can control outcomes and so they accept that threatening situations may exceed their coping ability. As such they become unable to cope and they experience negative emotions such as fear (Lazarus and Folkman, 1984; Schwarzer, 1998). Self-doubt raises unfavourable expectations where individuals are pessimistic about the expected outcomes of entrepreneurial activity (Carver and Scheier, 1990; Urbig and Menson, 2012). As a result, low desirability and entrepreneurial self-efficacy can lead to an inability to formulate strong intention. Weak entrepreneurial intention will stay in the memory without clear goals about performing entrepreneurial activity in the future (Kuhl, 1985; Ilouga et al., 2014). Thus, the likelihood of translating such intention into entrepreneurial activity is minimal.

This paper informs entrepreneurship literature in two ways, through a contribution to culture and intention. It responds to a scarcity of studies about post-materialistic values and entrepreneurship and answers the calls to explain the negative relationship between them. It testifies to utility of values change theory in a developing context with a collectivist culture. Although the entrepreneurship field is dominated by the prediction of the determinants of intention (Krueger, 1993; Krueger et al., 2000; Van Gelderen et al., 2008; Liñán and Chen, 2009; Almobaireek and Manolova, 2013; Schlaegel and Koenig, 2014; Kautonen et al., 2015), this study looks at how an unsupportive culture inhibits entrepreneurial intention. In doing so it fosters a process approach to entrepreneurship rather than a discrete view (Brannback et al., 2007). Looking at entrepreneurship-as-process engages research to investigate entrepreneurial behaviour deeply and comprehensively. The process approach gives an understanding of entrepreneurship as a complex phenomenon that involves prerequisites, stages, interactions, influencers, and decisions (Noorderhaven et al., 2004). It reflects the argument that entrepreneurship is a lifelong learning journey where researchers can investigate different stages starting from the early stage of formulating entrepreneurial intention. Hence, it answers the calls for achieving a greater understanding of the deep assumptions that underlie entrepreneurial behaviour which can result in significant progress in the field (Brannback et al., 2007; Hayton & Cholakova, 2012; Kautonen et al., 2013; Fayolle and Linan, 2014).

In terms of policy recommendations, this study identifies how cultural values negatively influence entrepreneurial intention in Saudi Arabia. It responds to the influential GEM report which indicates that Saudi Arabia consistently scores below the average of comparable countries in both entrepreneurial intention and entrepreneurial activity (GEM, 2009, 2010, 2016). It contributes to the ongoing debate regarding the dominant explanation for low entrepreneurial activity in Saudi Arabia, the cultural values embedded through the "years of plenty" (Tomlinson, 2007; Skoko, 2011; Hamid, 2012). The study found that the unsupportive culture in Saudi Arabia affects individuals' desirability and confidence to become entrepreneurs. Hence, it encourages institutions that support entrepreneurship in Saudi Arabia to consider two main approaches simultaneously, motivational and cultural.

The motivational side focuses on desirability and confidence to be an entrepreneur (Krueger et al., 2000; Alfonso and Cuevas, 2012; Ilouga et al., 2014). The cultural side focuses on the contexts which appreciate immaterial life-goals such as lifestyle and embed in the formative years (Inglehart, 1977, 1990, 2008; Morales and Holtschlag, 2013). For example, in highly post-materialistic cultures, it is suggested that venture creation is promoted using immaterial life-goals such as personal development, autonomy, and creativity (Uhlaner and Thurik, 2007). We suggests that policy-makers focus on individuals in their pre-adult years. At pre-adulthood, people establish their preferences, priorities, and values that then last for a life time and are slow to change. Previous research shows that entrepreneurship education may nurture students' entrepreneurial intention (Liñán, 2008) and enhance entrepreneurial desirability and self-efficacy (Bae et al., 2014). Finally, in high in-group collectivistic countries such as Saudi Arabia (Aloulou, 2016), entrepreneurship education positively influences entrepreneurial intention (Bae et al., 2014). In summary, as this study found that the unsupportive culture in Saudi Arabia mainly affects individuals' desirability and confidence to become entrepreneurs, the suggested initiative of nurturing entrepreneurship at the early stages of life can target motivating and building entrepreneurial confidence. Thus, presenting entrepreneurship at this early stage as a key potential future life choice, may help to mitigate the problem of unsupportive culture.

7. Conclusion

Entrepreneurship is important for countries to deal with global challenges and acquire economic development and growth (Sowmya et al., 2010; Koe et al., 2014; Setiawan, 2014;

Van Gelderen et al., 2015). However, some countries experience low entrepreneurial activity which can discourage beneficial outcomes from entrepreneurship (Freytag and Thurik 2007; Van Gelderen et al., 2015). Previous studies indicated that culture can inhibit entrepreneurial activity and the question of why post-materialistic values reduce entrepreneurial activity is still unanswered (Morales and Holtschlag, 2013; Stenholm et al., 2013). This research shows that post-materialistic values reduce desirability and entrepreneurial self-efficacy, in-turn exerting an influences on entrepreneurial intention. Low levels of desirability and entrepreneurial self-efficacy may lead to consequences that inhibit entrepreneurial behaviour. By exploring the effects of post-materialistic values in the Saudi Arabian context, this study encourages policy makers to focus their interventions to reduce the influence of unsupportive culture and hence safeguard the advantages of entrepreneurship.

The research has some limitations as it is limited to one country, broader insights can be added by expanding the research to other countries. The study was conducted as a "snapshot" of the current situation of entrepreneurship in Saudi Arabia with a cross-sectional survey design, a longitudinal approach would may offer greater robustness.

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Appendix

Table 1 Sample Characteristics

Age	%	Education	%	Gender	%
20-25	6.8	Postgraduate	16.3	Male	95
26-30	8.8	Undergraduate	68	Female	5
31-40	39.8	Secondary	7.4		
41-50	35.1	Other	8.3		
51-60	9.4				

Appendix

Reliability and Validity Measures

Construct	Items	Loadings	Cronbach's Alpha	AVE	VIF
Post-Materialistic Values	Seeing that people have more say in how things are decided at work and in their communities.	0.665	0.815	0.567	1.000
	Giving the people more say in important government decisions.	0.758			
	Protecting free of speech.	0.794			
	Progress toward a less impersonal more human society.	0.777			
	Progress toward a society in which ideas count more than money.	0.765			
Desirability	I would rather earn a higher salary employed by someone else than own my own business.	0.699	0.733	0.543	1.274
	I would rather pursue another promising career than own my own business.	0.715			
	I would work somewhere else only long enough to make another attempt to establish my business.	0.733			
	I am willing to work more with the same salary in my own business, than if employed in an organisation.	0.797			
Feasibility	It will be feasible to start my own business.	0.817	0.589	0.539	1.654
	If I start my own business, I am certain that it will be a success.	0.673			
	I know enough to start a business.	0.704			
Entrepreneurial Self-efficacy	Conceive a unique idea for a business.	0.683	0.882	0.515	1.566
	Identify market opportunities for a new business: Planning stage.	0.762			
	Plan a new business.	0.795			
	Write a formal business plan: Marshalling stage.	0.800			
	Raise money to start a business.	0.746			
	Convince others to invest in your business.	0.665			
	Convince others to work for you in your new business: Implementing stage.	0.672			
	Manage a small business.	0.600			
	Grow a successful business.	0.708			
Goal Intention	I am ready to do anything to be an entrepreneur.	0.734	0.921	0.718	
	My professional goal is to become an entrepreneur.	0.825			
	I will make every effort to start and run my own firm.	0.871			
	I am determined to create a firm in the future.	0.907			
	I have very seriously thought of starting a firm.	0.877			
	I have the firm intention to start a firm some day.	0.860			
Gender		1.000	1.000	1.000	1.018
Age		1.000	1.000	1.000	1.052
Education		1.000	1.000	1.000	1.020

Table 2 Discriminant Validity

	Age	Desirability	Education	Feasibility	Gender	Goal Intention	Post-materialistic Values	Self-efficacy
Age	1.000							
Desirability	0.153	0.737						
Education	0.084	0.067	1.000					
Feasibility	0.179	0.429	0.048	0.734				
Gender	-0.068	0.020	-0.076	-0.013	1.000			
Goal Intention	0.135	0.563	-0.042	0.588	0.019	0.848		
Post materialistic Values	0.016	-0.152	0.105	-0.084	0.015	-0.180	0.753	
Self-efficacy	0.146	0.370	-0.010	0.579	-0.068	0.598	-0.154	0.717

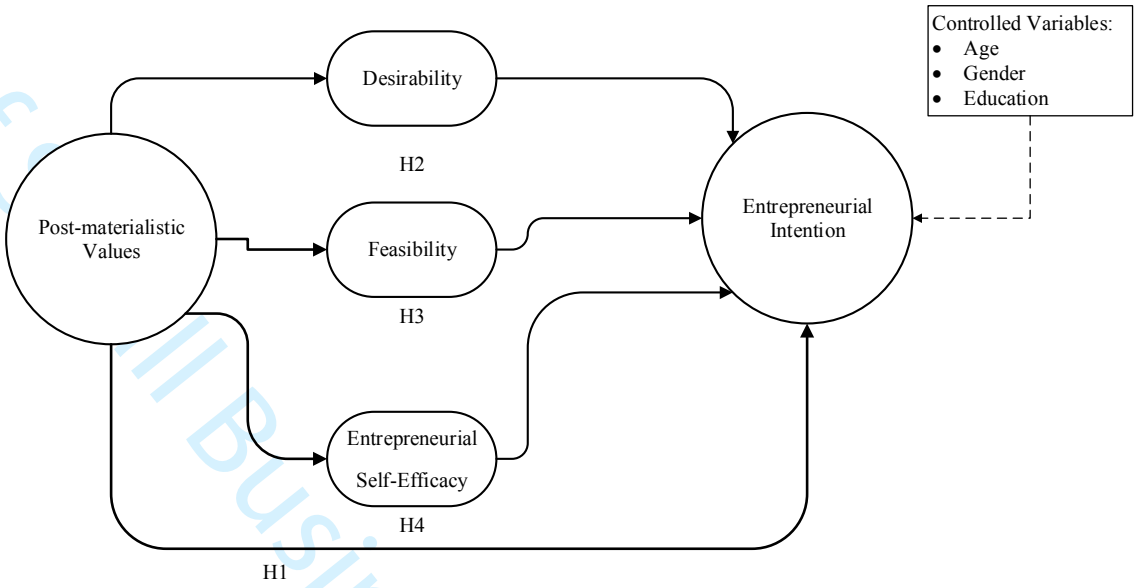

Figure 1 Influence of Post-materialistic Values on Entrepreneurial Intention

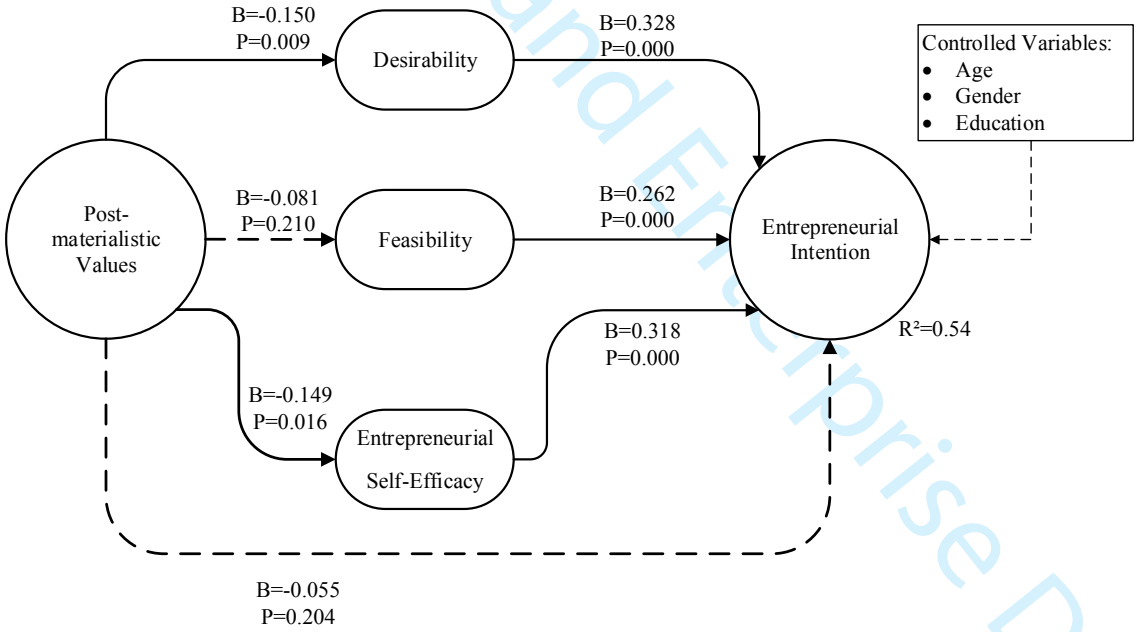

Figure 2 Structural Model